

First Named: Dan Matlock
Title: Rotational Light Emitting Display Apparatus
Serial No: 10/775,694
Docket No: Matlock.001
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AMENDMENT IN THE CLAIMS

Claims 1-40 (canceled):

Claim 41 (currently amended):

The apparatus of ~~claim 40~~ claim 45, wherein said microcontroller further operates to define a delay period and is further configured to illuminate one or more of said light emitting elements in accordance with said selected image map, said selected column, said signal, and said delay period.

Claims 42-44 (canceled):

Claim 45 (currently amended):

~~The apparatus of claim 40, wherein~~

A light emitting display apparatus for displaying a stationary or animated image on a rotating object, such as, for example, a wheel of a vehicle, the light emitting display apparatus comprising:

_____ a support attachable to the rotating object so as to having the same center of rotation as the rotating object;

_____ a plurality of light emitting elements on said support and arranged in one or more generally parallel columns;

_____ one or more image maps of an image to be displayed, each image map including an array of plurality of columns;

_____ a means for sensing the rotational position of said support about the center of rotation and generating a signal;

_____ a microcontroller attached to each of said plurality of light emitting elements, said microcontroller receives said signal and operates to select an image map and a column from said selected image map in accordance with said signal and configured to illuminate

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one or more of said light emitting elements in accordance with said selected image map, said selected column and said signal, thereby displaying said image as said support is rotated about the center of rotation so as to be viewed by humans;

_____ a power source connected to and providing electrical power to said microcontroller; and

said microcontroller determines the rotational frequency of said support from said signal and using said rotational frequency determines the linear velocity of the object to which said support is attached, and wherein said image is of a speedometer which dynamically displays said linear velocity.

Claim 46 (currently amended):

~~The apparatus of claim 40, wherein~~

A light emitting display apparatus for displaying a stationary or animated image on a rotating object, such as, for example, a wheel of a vehicle, the light emitting display apparatus comprising:

_____ a support attachable to the rotating object so as to having the same center of rotation as the rotating object;

_____ a plurality of light emitting elements on said support and arranged in one or more generally parallel columns;

_____ one or more image maps of an image to be displayed, each image map including an array of plurality of columns;

_____ a means for sensing the rotational position of said support about the center of rotation and generating a signal;

_____ a microcontroller attached to each of said plurality of light emitting elements, said microcontroller receives said signal and operates to select an image map and a column from said selected image map in accordance with said signal and configured to illuminate one or more of said light emitting elements in accordance with said selected image map,

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said selected column and said signal, thereby displaying said image as said support is rotated about the center of rotation so as to be viewed by humans;

_____ a power source connected to and providing electrical power to said microcontroller; and

said microcontroller determines the rotational acceleration of said support from said signal and using said rotational acceleration determines the linear acceleration of the object to which said support is attached, and wherein said image is of an accelerometer which dynamically displays said linear acceleration.

Claim 47 (currently amended):

~~The apparatus of claim 40, wherein~~

A light emitting display apparatus for displaying a stationary or animated image on a rotating object, such as, for example, a wheel of a vehicle, the light emitting display apparatus comprising:

_____ a support attachable to the rotating object so as to having the same center of rotation as the rotating object;

_____ a plurality of light emitting elements on said support and arranged in one or more generally parallel columns;

_____ one or more image maps of an image to be displayed, each image map including an array of plurality of columns;

_____ a means for sensing the rotational position of said support about the center of rotation and generating a signal;

_____ a microcontroller attached to each of said plurality of light emitting elements, said microcontroller receives said signal and operates to select an image map and a column from said selected image map in accordance with said signal and configured to illuminate one or more of said light emitting elements in accordance with said selected image map,

said selected column and said signal, thereby displaying said image as said support is rotated about the center of rotation so as to be viewed by humans;

_____ a power source connected to and providing electrical power to said microcontroller; and

~~the~~ said object is a vehicle wheel and said microcontroller is encoded with the radius of the wheel and the vehicle mass to which the vehicle wheel is mounted, and further wherein said microcontroller determines the rotational acceleration of said support from said signal and using said rotational acceleration determines the linear acceleration of the wheel, and then using said linear acceleration determines the power of the vehicle using the said linear acceleration, the vehicle mass, and the radius of the wheel, and further wherein said image is of a vehicle instrumentation which dynamically displays the determined power of the vehicle.

Claims 48-51 (canceled):

Claim 52 (new):

The apparatus of claim 45, further comprising:

a vehicle wheel; and

wherein said support is attachable to said vehicle wheel so as to have the same center of rotation as said vehicle wheel.

Claim 53 (new):

The apparatus of claim 46, further comprising:

a vehicle wheel; and

wherein said support is attachable to said vehicle wheel so as to have the same center of rotation as said vehicle wheel.

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Claim 54 (new):

The apparatus of claim 46, wherein said microcontroller further operates to define a delay period and is further configured to illuminate one or more of said light emitting elements in accordance with said selected image map, said selected column, said signal, and said delay period.

Claim 55 (new):

The apparatus of claim 47, wherein said microcontroller further operates to define a delay period and is further configured to illuminate one or more of said light emitting elements in accordance with said selected image map, said selected column, said signal, and said delay period.

Claim 56 (new):

The apparatus of claim 54, further comprising:

a vehicle wheel; and

wherein said support is attachable to said vehicle wheel so as to have the same center of rotation as vehicle wheel.

Claim 57 (new):

The apparatus of claim 41, further comprising:

a vehicle wheel; and

wherein said support is attachable to said vehicle wheel so as to have the same center of rotation as said vehicle wheel.